# MOTH launches world’s first quantum-powered AI music track with ILĀ



In a remarkable development that intertwines cutting-edge technology with creativity, London-based MOTH has unveiled the world's first commercially available music track created using quantum-powered generative AI. The track, titled "RECURSE," is a collaborative effort with acclaimed electronic artist ILĀ, marking a significant milestone in making quantum technology accessible to everyday creatives.

MOTH claims this breakthrough signifies not only a leap for the company but also a transformative moment for the creative landscape. Dr. Ilana Wisby, the CEO of MOTH, articulated the ambition behind this project, stating, “RECURSE demonstrates the power of quantum AI to support and enhance, and not just take from, artists.” This sentiment underscores the overarching goal of their proprietary platform, Archaeo, which marries the creative capabilities of generative AI with the advanced capacities of quantum machine learning. Such a blend of technologies is not merely theoretical; MOTH has successfully applied its innovations in gaming, generating levels for popular games like Super Mario Bros through the very same quantum technology that fuels "RECURSE."

The launch of "RECURSE" on major streaming platforms on May 2 heralds a new era for music creation, complemented by a novel 24/7 interactive streaming experience. This dual approach not only showcases the music but engages listeners in real-time, enhancing their connection to the creative process.

According to ILĀ, collaborating with MOTH’s technology was a breakthrough experience that expanded artistic horizons, stating, “This feels very much like a collaboration – working with a technology that’s pushing me to do new, interesting and surprising things.” He highlighted how traditional AI tools often generate a homogenous sound, stressing that MOTH’s approach is refreshingly unique, allowing for a more human-centric creative process. The emphasis here is not on replacing artists but rather on augmenting their practice, aligning perfectly with MOTH's mission to empower creatives with innovative tools without sacrificing their artistic integrity.

MOTH's broader vision encompasses more than just music; the firm is actively integrating quantum computing into various facets of creative technology, particularly gaming. The startup has appointed James Wootton, a visionary in quantum gaming, as its Chief Science Officer, aiming to explore how quantum applications can enhance gaming dynamics and immersion. With over $3 million raised to date, MOTH is positioned to expand its offerings significantly.

In its pursuit of innovation, MOTH has also introduced tools such as Actias, billed as the world’s first quantum synthesizer, and Quantum Audio Processing, which is an open-source framework tailored for sound manipulation on quantum systems. These developments indicate a deliberate strategy to provide creators with original, high-quality outputs that challenge conventional boundaries.

As MOTH advances its research into quantum applications in the creative sector, it reveals a commitment to redefining artistic production. Their work spans procedural content generation, quantum reservoir computing, and quantum concept music, designed to unlock new possibilities for creators and serve as a resource for enhancing artistic practices.

In an industry on the brink of transformation, MOTH is leading the charge, advocating for a future where quantum technology not only supports creativity but revolutionizes it. By prioritising artistic collaboration over automation, the company is setting a precedent for how technology can serve to complement rather than replace the human touch in artistic endeavors.

### Reference Map

1. Paragraphs 1, 2, 3, 4, 5, 6
2. Paragraph 4
3. Paragraphs 4, 5
4. Paragraph 5
5. Paragraph 6
6. None
7. None

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://businesscloud.co.uk/news/moth-ila-unveil-music-track-powered-by-quantum-genai/> - Please view link - unable to able to access data
2. <https://venturebeat.com/ai/moth-aims-to-bring-quantum-technology-to-gaming/> - Moth, a London-based startup, is integrating quantum technology into gaming by providing quantum computing resources for tasks like procedural content generation, character AI, and graphics. The company has appointed James Wootton, a pioneer in quantum gaming, as its Chief Science Officer to lead these initiatives. Moth aims to make games more dynamic and immersive by leveraging quantum computing, with plans to release models for generative AI in music that utilize quantum technology. The company has raised over $3 million to date.
3. <https://mothquantum.com/research> - Moth's research focuses on quantum applications in creative technology, aiming to enhance content production and artistic practices. Their work includes Procedural Content Generation (PCG), Quantum Reservoir Computing (QRC), and Quantum Concept Music (QCM). Through collaboration with industry partners, Moth strives to unlock new possibilities for creators and develop practical solutions, reflecting their commitment to integrating quantum computing into the creative industries.
4. <https://www.iotworldtoday.com/quantum/how-quantum-algorithms-could-disrupt-creativity> - Moth is pioneering the integration of quantum computing into the creative industries, focusing on music, gaming, and visual arts. Their mission is to empower artists, game designers, and producers with quantum-powered tools, enabling innovative and unique consumer-facing products. Moth has developed tools like Actias, the world’s first quantum synthesizer, and Quantum Audio Processing, an open-source framework for processing audio on quantum systems. They are also preparing to release Sphinx, a consumer-facing product designed to enable creators to produce unique and high-quality music with minimal input.
5. <https://mothquantum.com/about> - Moth is a quantum technology company building tools and technologies for creative and cultural production, with a focus on music, gaming, and visual media. The company was formed around a diverse team of scientists, artists, curators, engineers, and entrepreneurs, many of whom have been exploring the transformative potential of quantum technologies in these fields for over a decade. Moth's executive team includes CEO Ferdi Tomassini, Chief Creative Officer Harry Kumar, and Chief Scientific Officer James Wootton, among others.
6. <https://www.frontiersin.org/articles/10.3389/fbioe.2022.908356/full> - This article discusses the integration of quantum computing with heuristic algorithms, specifically focusing on the Quantum-Inspired Moth-Flame Optimizer (QIMFO) for cluster analysis. The study introduces a quantum revolving gate (QRG) strategy into the moth-flame optimizer to enhance its local development and exploration capabilities. The results demonstrate the effectiveness of QIMFO in benchmark test functions and engineering applications, highlighting the potential of quantum-inspired algorithms in solving complex optimization problems.
7. <https://www.science.org/doi/full/10.1126/sciadv.aat9004> - This research introduces a generative quantum machine learning algorithm that offers potential exponential improvements over classical generative models. The algorithm leverages quantum mechanics to model complex data generation processes, achieving marked improvements in representational power and runtime efficiency. The study provides a heuristic quantum algorithm for training and inference, demonstrating exponential speedup over classical algorithms for certain instances, thereby opening new avenues for applying quantum computation to challenging problems in machine learning and artificial intelligence.